

CITY OF GREENBELT, MARYLAND

FOREST PRESERVE MAINTENANCE AND MANAGEMENT GUIDELINES

Executive Summary

In October, 2004, the Greenbelt City Council passed legislation which created the Forest Preserve, which is intended to designate and manage limited forested areas as *“protected, undeveloped, and undisturbed area for the benefit of current and future generations of Greenbelters ...”*

The area known popularly as Parcels 1 and 2, also referred to as the Great North Woods, was included in the initial forest preserve designation. The enabling legislation requires that a Management and Maintenance plan or guidelines be adopted. The purpose of these guidelines is to define the fashion by which the forest preserve areas will be used by the public, as well as the measures which may and should be undertaken by the city to ensure that the forest preserves are managed consistent with the intent of the designation.

An eleven (11) member Forest Preserve Task Force was appointed by the City Council to draft the management and maintenance standards. Equally important, the task force was to recommend any additions to the forest preserve system.

The Management and Maintenance Guidelines which follow, is the product of a year long effort of the task force to find a balance between the public's use of and access to the forest preserve, with the city policy, to protect the preserve areas from the detrimental impacts associated with future development. To be successful in this effort, it was necessary that the task force members work in a collaborative environment that embraced the perspectives of each task force member. The result is the document that follows. It is one that evaluates each area of the forest preserve, and defines restrictions and guidelines based on existing patterns of use and activity.

Based on field studies, the task force determined that the forest preserve can be divided into five sections based on differences in use patterns, historic changes, and the condition of the forest preserve area. Consequently, five sub areas were identified within the existing north and south preserves. These sub areas can be characterized by a range of descriptions, such as the very pristine North Core, locations of little human disturbance (Sub area A), and locations where the thoughtless and damaging activities in the forest preserve have dramatically altered the natural condition of the preserve. Guidelines take into account these differences between sub areas.

The Management and Maintenance Guidelines are divided into sections based on specific issues. The content sections are as follows: Trails, Signage, Maintenance, Invasive Species, Catastrophic Events, Vegetation, Clean-up and Removal of Debris, Enforcement, Activities and Special Events, Contingencies and Forest Health. It is anticipated that these guidelines can be applied to any new forest preserve areas which may be designated in the future, with special issues addressed as they have been within this document.

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Policy Statement

The following Statement of Policy is a summary of the philosophy, intent and direction of the Management and Maintenance Guidelines for the Greenbelt Forest Preserve.

Statement of Policy

Recognizing that the supply of undeveloped, undisturbed land in Greenbelt has been depleted over the past several decades, and also acknowledging that without strong public intervention, the preservation of these valuable open spaces could not be guaranteed, the City Council adopted a Forest Preserve program. This program is intended to designate and manage forest resources as a protected, undeveloped, and undisturbed area for the benefit of current and future generations of Greenbelters.

*The land areas designated as Forest Preserve are city owned park areas consisting of nearly 200 acres. The areas have been described as the North and South Preserves. The character of the North and South Preserves varies greatly. Accordingly, **each area should be governed by Management and Maintenance Guidelines specific to the area.** Certain guidelines will be consistent for all preserve areas. However, the application of the same guidelines to each area would ignore the unique qualities of each, as well as the patterns of use, current conditions, and public needs associated with each area.*

These Management and Maintenance Guidelines have been developed to recognize the overarching objectives of the Forest Preserve program, as well as the uniqueness of the Forest Preserve as a whole, and when viewed as discrete areas. There are guidelines that will be applicable to all preserve areas, as well as guidelines that are specific to a certain area. It is assumed that this approach in the development

of management and maintenance plans as new preserve areas are considered and added, would provide the appropriate level of control while allowing for the preparation of guidelines that address the unique and specific issues impacting individual preserve(s).

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SECTION ONE

INTRODUCTION

History

When the Federal Government divested itself of its ownership of Greenbelt in 1953, placing both the developed and undeveloped lands of Greenbelt in private ownership, it allowed for private entities to develop the greens of Greenbelt for suburban residential and commercial construction. Since the early 1960's, the city government has been engaged in a continuous battle to stave off new construction of a character and density which would be inconsistent with the history of Greenbelt. Much of what was built in the decades following private acquisition of the previously federally owned lands of Greenbelt is now considered part of Greenbelt, even though it does not reflect the planning details that characterize the historic community.

Perhaps the biggest loss resulting from the privatization of land ownership of Greenbelt was the incremental loss of the greenbelt. At various times since the early 1960's, proposals for development of what has popularly been called Parcels 1 and 2, were circulated and included plans for apartments and houses. At one point, parcel 2 had been acquired by Prince George's County as the site of a new high school.

Recognizing that the only guaranteed way to protect what remained of the original greenbelt, the city set about to acquire all undeveloped parcels located in the north end of the historic city. The largest and most significant acquisition was completed after the city initiated condemnation action to acquire Parcels 1 and 2. The city was able to pursue this purchase through the passage by voters of a bond referendum, allocating \$2 million for the purchase of the remaining greenbelt. This acquisition became a reality when the Department of the Interior contributed to the cost of purchase, and the city also assumed ownership of the excess high school property.

Since the time of that land purchase, the City Council has sought a mechanism to protect the greenbelt from conversion in use which would compromise and/or damage the essential natural characteristics of the property. After considering public land trusts, private land trusts, easements, and county zoning overlays as possible mechanisms to protect these lands, it was determined that the party most capable of acting as a steward to protect the natural qualities of the north end greenbelt, would be the citizens of Greenbelt themselves. This led to the establishment of management and maintenance plans, and the designation of a task force to develop and recommend policies for activities and behavior.

Philosophy of Guidance

These Management and Maintenance Guidelines set forth a comprehensive program to guide the public stewardship of the city's Forest Preserve. Therefore, the primary goal of these guidelines is the preservation of the Forest Preserve wooded areas and the wildlife habitats within its boundaries. The first concern for citizens is the stewardship of the Forest Preserve – to protect and conserve the land in its existing natural state. The natural growth and maturation of the forest will be allowed and provisions made to prevent adverse conditions from inhibiting its growth or the viability of the natural ecosystem, including all trees, indigenous plants and flora, and all forms and species of wildlife, including fish, amphibians and birds.

Secondary objectives for the Forest Preserve are public education about the preserves and their natural value, provision for passive recreation for citizens and protection of the aesthetic quality of the forest by minimizing the impact of modern civilization within the preserve.

Enabling Legislation

The Forest Preserve program and procedures of its administration are set forth in Greenbelt City Council Ordinance 1243, adopted on October 27, 2003, and codified in Chapter 12 of the City Code.

Role of the Forest Preserve Task Force

The Forest Preserve Task Force is a body of eleven members, appointed by the City Council, to formulate Management and Maintenance guidelines for the Forest Preserve program and park lands managed through the program. The Task Force is also charged with evaluating potential sites for future designation as Forest Preserve areas.

Assessment of Forest Preserve

On October 27, 2003 the Greenbelt City Council, by Ordinance 1243, designated two Forest Preserves, known as the North Preserve and the South Preserve.

The North Preserve consists of 144.9 acres, and is described as Parcels 10, 17, 19 and 20. The North Preserve is largely an undisturbed wooded area. While it is used

by hikers on a regular basis, it is not used to the extent that other city parks, such as the Buddy Attick and, and Schrom Hills Parks, are used.

The North Preserve is probably best described as a primitive area. The path system, though extensive, is informal. Path surfaces are not improved and range in width from several feet to a barely navigable surface, impeded by vegetation, fallen trees and limbs, and streams. In some locations attempts have been made by trail users to stabilize and clear trails. At stream crossings, some rudimentary bridges have been laid out.

Currently, there are no standards for the creation or maintenance of trails or stream crossings. The "improvements" that have been made are the result of individual efforts. In no way should these improvements be considered formal, permanent, or approved. To protect the preserve area, as well as the public, from possible ill impacts from well intentioned acts of maintenance and improvement, the Management and Maintenance Guidelines should clearly prohibit such private improvements. Those improvements that are currently in place should be left in place, unless they are unsafe and present a danger to the public.

SECTION TWO

TRAILS

Introduction

The North and South Preserves consist of five distinct areas, each with different natural conditions and usage patterns. This variety, particularly as evidenced in the usage patterns, necessitates the preparation of different management and maintenance standards, tailored for each area.

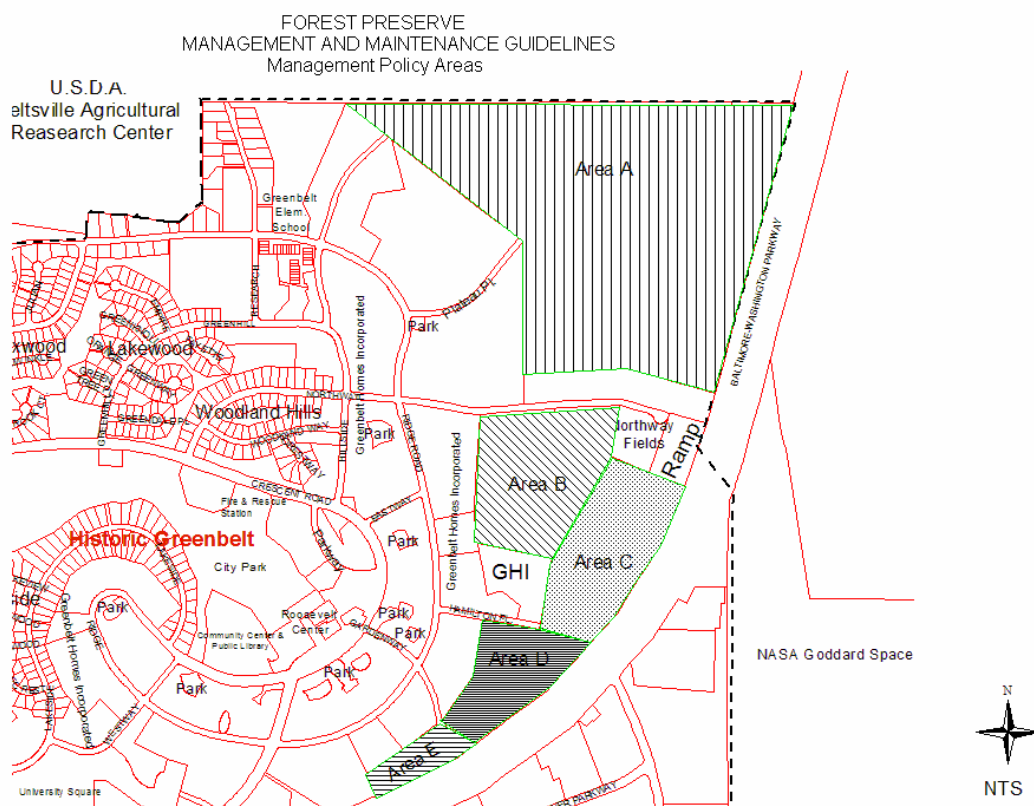
The different existing use patterns and natural conditions provide the option to designate a trail system that meets the needs of the public, while protecting the essential elements of the Forest Preserves that the City Council and citizens of the community have been fighting to protect for nearly 20 years.

In the drafting of guidelines for Forest Preserve maintenance, several points should be kept in mind. Forest management is a process. Forests are continually changing. The change may be indicative of a healthy forest system or a distressed forest system. Regardless, change is a fundamental characteristic of every forest. Guidelines may attempt to address all contingencies, but not all will be addressed. Guidelines should focus on the goals of the management strategy.

In considering impacts to a forest system, certain uses and forces are readily acknowledged to cause "damage". Other uses, assumed to be benign and compatible with a stable and protected environment, also create change in the environment. The simple act of hiking alters the forest environment. Hiking causes compaction of the floor of the forest. Understory is walked on, pushed aside, and damaged. Over time, paths created by repeated walking become denuded, and subject to erosive processes. It is important to recognize that any process in the forest environment, be it introduced through natural forces or by the presence of humans, will change the forest. The relevant issues in planning for the long term health of the forest area is how these forces will be controlled, and to what extent change associated with these forces be accepted and tolerated.

A final consideration relates to accessibility. The Americans with Disabilities Act does not dictate standards for recreation trails. Therefore, the issue is whether or not to provide barrier free trails within certain preserve areas. It is important that elements of a trail system match the expectations of the user. If a trail is designated as being barrier free, then all elements of the trail should be consistent with that standard. A trail user

negotiating a paved, level path would expect to find a bridge over a stream, and not a fallen log. When a trail element along a trail is not consistent with the trail's overall design, a user could be forced to turn back in frustration.



North Preserve – Parcels 10, 17, 19, 20 - (Area A)

The North Preserve, located north of Northway, west of the Baltimore-Washington Parkway, south of the Beltsville Agricultural Research Center, and east of GHI units on Ridge Road, consists of 144.9 acres. This area, known in the community as the Great North Woods, is perhaps the most pristine, undisturbed, and critically valued area of the city's park land.

The topography varies from gently sloping, to grades that exceed 15%. There are a series of informal paths that have been intentionally, and unintentionally, blazed over many decades of hiking. Trails maintenance has been done informally, so the trails range in quality and condition.

Even though the trails do not receive extensive use, there are conditions of erosion, muddiness, slope failure, littering, vandalism, purposeful landscape damage, trail blazing, and other conditions reflecting concentrated use.

As opposed to planned trail systems, there is no loop trail, or consciously planned trail that sets forth a specific route. Users of the trail systems usually know where the trails go, and are not discouraged from using the trails because the trails do not have prescribed routes or entry and exit points. It is a primitive, informal trail system, and most individuals who visit the North Preserve are in favor of maintaining the culture of use which has allowed this forested area to retain its natural character for the decades that individuals have hiked this area.

South Preserve – South of Northway Fields – Parcels 6, 7, 8 – Area B

This area, which is relatively flat in topography, exhibits the quality of the wooded areas in the North Preserve. Perhaps due to the topography, it is this area that has been used for informal experiential/educational events and activities (e.g. Pumpkin walk) that have been conducted on an annual basis for many years.

This area has also received informal maintenance in the past. Trails, which have also been blazed on an informal basis, tend to be wider, flatter, and have been surfaced with straw. The introduction of straw as a surface material, introduces a non-native material to the environment, which is capable of supporting the growth of undesirable vegetation in the preserve. This situation demonstrates the danger of allowing informal maintenance in the preserve areas. Well intended “improvements” may actually lead to unintended and undesired outcomes. Accordingly, under any maintenance or management plan, “informal” maintenance should not be permitted.

The favorable topography of this South Preserve area provides an option to consider the management of the trail system in a fashion that provides greater opportunity for citizens to use this area of the preserve.

South Preserve – South of Northway Fields – Parcel 8, 9 – Area C

This area, consisting of approximately 18 acres, is very difficult to access, is heavily vegetated, and has a varied topography. This area does not lend itself to a planned trails system, given the limitations on the designation of loop, or joined trails. In addition, waste and dumped materials from the abandoned landfill can be found, partially buried, in areas near where hiking trails have been established. Were this area to be managed to encourage greater use, some measures would need to be taken to remove or mitigate the hazards created by the vestiges from the landfill operations.

Due to the growth of vegetation around these landfill hazards and the lack of access to the buried junk, it would be very difficult to remove these junk cars, household appliances, construction debris, and similar waste. Public access near these areas should be discouraged, if not restricted.

It is this area where “informal” trail maintenance has been undertaken by well meaning trail users. The most notable example of this maintenance is the use of an old diving board as a foot bridge. Should footbridges be designated as an approved trail element, unsafe measures which currently exist should be removed and replaced consistent with the guidelines and governing codes.

South Preserve – Gardenway to Community Gardens at Hamilton Place – Part of Parcel 21 – Area D

This is a very flat portion of the preserve, and exhibits wear and abuse associated with heavy use (compared with the other areas of the preserve). This portion of the preserve bounds the Baltimore-Washington Parkway, and is impacted by the noise associated with the roadway. This noise intrusion detracts from the natural experience of the preserve and makes its character substantially different from the character of other areas, particularly the North Preserve.

There is evidence of illegal and undesirable activity within this area of the preserve, such as consumption of alcoholic beverages, drug use, gun use and overnight use. There is litter strewn throughout this area of the preserve. The fence dividing the city park land from the Baltimore-Washington Parkway right-of-way has been cut and taken down in locations to provide ready access to this area. Those fence breaches should be repaired.

In spite of the negatives associated with the proximity of this area of the preserve to the Baltimore-Washington Parkway and the current use activities, this area could be utilized to provide hiking trails, which are convenient to large areas of the North End neighborhoods, without changing the essential character of the park area. Due to the topography, as well as the limited number of stream and similar crossings, this, of all preserve areas, would be most suitable for planning and management as an open access hiking area. Further, the encouragement of desired activity in this area could help reverse the evident pattern of misuse and undesirable use of the area. Accordingly, formalization of the path system which has developed over time is recommended.

Another benefit of the management of a designated park/hiking area is that such a park can reduce the demand on the primitive areas of the preserve where public use is not actively encouraged.

South Preserve – Gardenway to McDonald Field – Part of Parcel 21 – Area E

This area of the preserve is relatively flat and is also heavily vegetated. It is not well used for hiking, so consequently, there are few informal trails. The minimal access also leaves this area less impacted by littering, and other signs of neglectful activity that is evident in the preserve area north of Gardenway.

There does not seem to be significant public use in this area of the preserve. Further, when there is public discussion about protecting the North and South Preserve, there is little reference made to this specific area.

Lacking an obvious demand for use based on public comment or signs of existing use patterns, this area should be managed based on the continuation of the existing condition.

Development of Management and Maintenance Guidelines

As the foregoing discussion illustrates, a variety of use patterns, natural features, topography, opportunities, constraints and problems, are evident throughout the North and South Preserves.

Utilizing existing use patterns as the foundation to define the policies by which the preserves will be managed and maintained provides an immediate validation for the policy, as the public, through its years of use, has established the character of the forested area.

The following describes general guidelines for the management and maintenance of trails within the Forest Preserve. These guidelines present broad parameters which may apply, in whole, in part or perhaps not at all, to the management of trails in specific and unique areas.

General Guidelines for Preserve Trails

I. Purpose and User Expectation

Preserve trails are, in general, unimproved, informally designated paths within the preserve lands. The trails are not formally maintained, so users are likely to encounter a variety of conditions along any given trail, such as fallen trees, stream crossings, low and narrow clearances, and rough trail surfaces. When designated trails are authorized, the purpose would be to provide the public with a minimally intrusive and destructive mode to experience a large,

forested area, and to participate in activities consistent with that type of experience.

II. Trail planning

Existing trails are not officially planned, and have evolved over time through public use. Trail planning would occur in situations where, due to sensitive areas or hazardous conditions, public access should be restricted, and alternate trails must be designated or promoted.

III. Trail layout

Since the existing trail system is unplanned, the trails themselves reflect actual use. It is probable that most existing trails reflect the general guidelines which might correspond with a planned trail system. Nonetheless, the layout of a trail is not required to be specified unless a trail is itself planned.

IV. Stream crossings

Stream crossings present the most significant public safety and environmental safety issue associated with trail management and maintenance. Certain general guidelines which are intended to protect the stream from damage to the bank, alterations in the channel, changes in water velocity, and unsafe conditions, are suggested.

Management of stream crossings is also a challenge when users erect informal bridges, which could be unsafe. Therefore, under any circumstance, bridging of a stream in the Forest Preserve should only be undertaken by the city, in accordance with the following general guidelines:

- Fords (natural crossings) can be used to traverse slow moving streams less than 24 inches deep. Stream crossings should be located where banks are stable and gently sloping and the stream bed naturally consists of gravel or sand.
- Unapproved construction or installation of bridges is not permitted.
- On hiking trails, a log bridge can be used for stream crossings less than 10 feet wide unless the trail is designated as a barrier free trail.
- When placing a bridge, it is advisable to select a location where the grade on either side of the stream is roughly equal, to allow for a relatively flat crossing.
- Bridges greater than two feet above the streambeds should have a hand rail consistent with appropriate local codes.

- On light use trails, bridges should be 2 – 4 feet in width. On heavy use trails, the ideal width for a bridge would be 5 – 6 feet. These standards are intended to be used only as general guides, and not as mandated standards.

V. Surface drainage

Surface drainage may cause ponding and erosion, which could detract from the user experience and/or damage the environment. Certain maintenance activities may be required for the long term health and safety of and within the Forest Preserve. The following should be considered strategies for dealing with specific problems and not as mandatory maintenance activities:

- For trails on steep slopes where erosion is occurring, flowing water should be diverted off the trail. This can be accomplished by out sloping the trail surface at 2-3 percent grade toward the downhill side of the trail.
- Grade dips or water bars may also be used to divert surface water flow from a trail. Water bars may be constructed of logs or stones, and should be placed at a 30 degree angle from the trail's edge.
- Excessive cross slope to reduce erosion can cause a trail to become difficult to negotiate, so care must be exercised to achieve the desired water diversion without the creation of excessive cross slope.

VI. Subsurface drainage

Trails where groundwater surfaces and ponds occur can be problematic if it causes hikers to divert around the trail, thus widening the area of impact. Where subsurface drainage makes passage difficult, countermeasures to mitigate the ponding or wet conditions should be considered, consistent with the following guidelines:

- Raise the tread way 3 to 6 inches above the surrounding terrain which will allow water to drain away.
- Trail surfaces can be elevated with the use of natural materials, such as stones, gravel, or alternatively boardwalks.
- Boardwalks are preferable in areas where the soils are erodible and/or tree roots are exposed.
- Short runs of log bridges may also be used.

VII. Trail signage

Trail signage may be used to indicate the name of the preserve, post rules of use, and to provide information about the preserve.

In general, signage can be a useful tool by identifying the name, ownership, purpose and restrictions governing use of public lands, such as the Forest Preserves. Signage intended to attract the public to a location should be positioned at entrances to the preserve and other strategic locations. Signs may also be used to orient users to trail heads, etc.

For those areas where extensive public use is not encouraged, and regulations governing use may be more restrictive, signage should be considered. However, this signage would be smaller, and the content would focus on the preservation element of the management activities and use restrictions.

VIII. Trail markings/blazes

One feature sometimes found along hiking trails are trail blazes or markings. These markings orient users to a route, allowing them to navigate through a park area. This is a matter not only of use management, but also of safety. Blazed trails help keep users on already created trails, but they also help keep users from getting lost. Therefore, a management guideline providing for blazing of a primary trail, where one exists, is recommended consistent with the following:

- Trail users should be able to sight from one trail marker to the next, in any season of the year.
- While painted blazes or markings on trees is one way to mark a trail, use of non-permanent markers, such as flags or marking tapes, is the preferred method of blazing trails. Use of such durable yet movable markings will allow a blazed trail to be modified in route, marked temporarily, or deemphasized, as circumstances may necessitate.
- Unauthorized placement or marking of blazes is prohibited.

IX. Trail clearing

Trail clearing is only permitted in areas where a barrier free trail is being planned. In those situations, shrubs and small trees should be cut flush with the ground. Under any circumstance, trail clearing should be minimized.

X. Trail surfacing

Trail surface will be governed by the type of trail, user expectations, and the condition of the soils, surface and subsurface drainage. Trails other than primitive trails, should be free of stones, stumps and protruding roots. The

more heavily traveled the trail, the greater the need for a stable surface treatment. Paved trails are not recommended.

XI. Maintenance

Maintenance can be considered a function of observation and monitoring, as well as actual scheduled maintenance. Any designated trail within a preserve area should be inspected on an annual basis, to identify any maintenance or use issue.

XII. Accessibility

There are no ADA standards for recreational trails. The existing conditions, use patterns and character of the preserves, particularly in the South Preserve, provide opportunities to designate and provide a trail system that is barrier free. This is not to suggest that paved trails should be provided at any particular location. Rather, it is to suggest that the more actively a trail is planned and managed, the wider the range of trail users to whom the trail is available.

Specific Guidelines for Preserve Sub-areas

Due to the unique character of the sub areas of the North and South Preserves, it is prudent to define trail guidelines that are specific to that area. The following are those guidelines:

North Preserve – Area A

I. Purpose and User Expectation

The North Preserve is the largest, most pristine, and critically valued of the city's parklands. Due to the expanse of wooded area, the extreme variations in topography, and the isolation of the preserve area in relation to other public areas, use levels should not be expected or encouraged to increase. Trails management should reinforce this objective.

II. Trail planning

The use patterns of the North Preserve have been well established, and validated through City Council policy. Public sentiment supports the goal that public access in the North Preserve should not be changed, except as necessary to protect the area from disruptive use or alteration of the essential

characteristics of the forest area. Therefore, the formalization of trails is not recommended.

- No new trails are proposed. Trails occur as a result of informal use by the general public.
- All trails shall accommodate only hiking or similar foot based activity.
- Trails resulting from inappropriate or prohibited use are not permitted.

III. Trail layout

- Trail users should contain hiking to existing trails to minimize disturbance to flora, fauna and undisturbed ground spaces.
- Hiking on courses on a vertical slope should be avoided in order to minimize potential for erosion. Switchback hiking patterns are recommended.

IV. Stream crossings

- Stream crossings should be kept to a minimum.
- Hikers should cross streams at the narrowest point, where banks are gently sloped and the stream bottom consists of gravel or sand.
- The construction or creation of bridges is prohibited unless required to protect a stream bank or channel from damage.

V. Surface drainage

- Alteration of existing surface drainage patterns should be considered only when runoff creates conditions considered to be unsafe to the public or damaging to the surrounding natural conditions.
- Should surface drainage patterns require modification, such modification will only employ natural materials.
- Culverts, storm drain inlets, swales, rip rap channels, or other measures that require excavation and/or the introduction of non-natural materials, are not permitted.
- Surface drainage adjustments, if required, should focus on redirection of the surface flow.
- In lieu of the use of surface drainage treatments access to an impacted area may be restricted for a time period necessary to allow the undesirable condition to naturally repair/restore.
- Under any circumstances, the countermeasures employed shall be the least destructive option(s) available, and shall be limited only to that area which must be impacted to improve the unsafe or degraded condition.

VI. Subsurface drainage

- Subsurface drainage is prevalent throughout The City of Greenbelt. No special treatments shall be considered to address general subsurface drainage.
- In the event subsurface drainage impacts adjacent, private properties, no countermeasures shall be implemented until a study of the severity of the problem and all possible treatments, has been conducted.
- Treatment of subsurface drainage problems impacting adjacent private properties through the alteration of surface or subsurface conditions on the preserve shall be considered only if no other options are available. More expensive options that protect the natural condition of the preserve are preferred to options which will impact the preserve.
- In the event that subsurface drainage is impacting a trail, or other area being utilized by the general public, measures may be taken to reduce and eliminate muddy and/or erosive conditions. Such measures may include placement of stepping stones over the muddy areas or redirection of the path.

VII. Trail signage

- Trail signage should be posted at the major points of public entry to the park, such as the main entrance to the Northway Field complex, near Ridge Road. These signs will indicate that the area is a Forest Preserve, state general rules of use, and give a phone number to call to report problems.

VIII. Trail markings/blazes

- Trail markings and/or blazes are not permitted, given the primitive nature of the North Preserve.

IX. Trail clearing

- Trail clearing is prohibited, unless in direct relation to a maintenance or management activity directed by Council.

X. Trail surfacing

- No foreign materials, including wood chips, straw, and gravel are allowed to be used for trail surfacing.

XI. Maintenance

- The North Preserve shall be inspected on foot on an annual basis by city personnel as assigned by the City Manager, to evaluate the condition of the preserve.
- Permitted maintenance activities during the inspection include removal of trash and refuse as well as removal of improvements installed by others and considered inconsistent with the Management and Maintenance Guidelines.
- Any conditions believed to be dangerous to the public or potentially injurious to the natural environment shall be reported to the City Manager, who will determine the appropriate response according to these guidelines.

XII. Accessibility

- There are no barrier free trails in the North Preserve.

South Preserve – South of Northway Fields – Area B

I. Purpose and User Expectation

It is this area of the South Preserve where informal educational and experiential activities, such as the Pumpkin walk, have been conducted for many years. As a result, a trail system has developed to accommodate use by groups of individuals who might otherwise not visit woodlands. Informal trail maintenance has been conducted, including the use of straw to stabilize the trail surface. There has been public interest to allow for the continuation of these special activities.

The evolution of the informal trails in this area of the Forest Preserve provides an opportunity to temporarily designate a trail to support popular experiential/educational activities.

II. Trail planning

As this area of the preserve is most noted because of the special activities which have been held here over the years, it is prudent to define how and under what circumstances the temporary designation and marking of trails related to these special events, is to be undertaken.

- The proposed temporarily designated trail shall utilize the general alignment of the trails which have been used for past organized activities.

- Trails shall be planned and maintained to avoid the removal of trees and vegetation.
- Trails resulting from inappropriate or prohibited use are not permitted.

III. Trail layout

- Trail users should contain hiking to existing trails in order to minimize disturbance to flora, fauna and undisturbed ground spaces.
- Temporary designated trails should be limited to areas of relatively flat topography where a system of marginally maintained trails has already developed.
- Access to the designated trail shall be via the Northway ball fields parking area and/or Northway.

IV. Stream crossings

- Stream crossings should be kept to a minimum.
- Hikers should cross streams at the narrowest point where banks are gently sloped and the stream bottom naturally consists of gravel or sand.
- Stream crossings along a designated trail are not required. Extension of the designated trail to necessitate a stream crossing is not permitted.

V. Surface drainage

- Alteration of existing surface drainage patterns should be considered only when runoff creates conditions considered to be unsafe to the public or damaging to the surrounding natural conditions.
- Should surface drainage patterns require modification, such modification will only utilize natural materials.
- Culverts, storm drain inlets, swales, rip rap channels, or other measures that require excavation and/or the introduction of non-natural materials, are not permitted.
- Surface drainage adjustments, if required, should focus on redirection of the surface flow.
- In lieu of the use of surface drainage treatments, access to an impacted area may be restricted for a time period necessary to allow the undesirable condition to naturally repair/restore.
- Under any circumstances, the countermeasures employed shall be the least destructive options available, and shall be limited only to that area which must be impacted to improve the unsafe or degrading condition.
- In lieu of natural materials, a boardwalk may be constructed, so long as the boardwalk allows the natural drainage flow to continue. The

boardwalk may be considered only along the segments of the designated trail.

VI. Subsurface drainage

- Subsurface drainage is prevalent throughout Greenbelt. No special treatments shall be considered to address subsurface drainage.
- In the event subsurface drainage impacts adjacent, private properties, no countermeasures shall be implemented until a study of all the possible treatments, and the severity of the problem, has been conducted.
- Treatment of subsurface drainage problems impacting adjacent private properties through the alteration of surface or subsurface conditions on the preserve shall be considered only if no other options are available. More expensive options that protect the natural condition of the preserve are preferred to options which will impact the preserve.
- In the event that subsurface drainage is impacting a trail or other area being utilized by the general public, measures may be taken to reduce and eliminate muddy and/or erosive conditions. Such measures may include placement of stepping stones over the muddy areas, redirection of the path, or use of a boardwalk over the muddy/eroded portion of the trail.

VII. Trail signage

- Trail signage should be posted at the main entrance to the Northway Fields complex, near Ridge Road.

VIII. Trail markings/blazes

- Trail markings and/or blazes shall be utilized to mark only the temporarily designated trail.
- Blazes shall be indicated through the use of flags or marking tape, if at all possible. Different loops or legs of the trail may be indicated through the use of different colors.
- Signs, marking, or other identification of a permanent nature should not be affixed to a tree or other vegetation, rock, or natural element.
- Unauthorized placement or marking of blazes is prohibited.

IX. Trail clearing

- Trail clearing is prohibited, except to create a designated trail if authorized by Council.
- Trail clearing shall only occur when significant impassible hazards are present along the designated trail. In these instances, small trees or

shrubs should be cut flush to the ground and shall be the minimum necessary to create and maintain the trail.

- Excavation or grading in the creation of managed trails is not permitted.
- The designated trail shall not be widened.

X. Trail surfacing

- No foreign materials, including wood chips, straw and gravel, are permitted to be used for trail surfacing.

XI. Maintenance

- Area B of the South Preserve shall be inspected on an annual basis on foot by city personnel as assigned by the City Manager to evaluate the condition of the preserve.
- Permitted maintenance activities during the inspection include removal of trash and refuse and removal of improvements installed by others and considered inconsistent with the Management and Maintenance Guidelines.
- Any conditions believed to be dangerous to the public or potentially injurious to the natural environment shall be reported to the City Manager, who will determine the appropriate response within these guidelines.

XII. Accessibility

- The designated trail is intended to be usable by the general public, specifically those who are not familiar with the more extensive, informal trails of the North Preserve. However, the designated trail is not considered a barrier free trail.

South Preserve – South of Northway Fields – Area C

I. Purpose and User Expectation

The isolation of the preserve area south of Northway Fields, as well as its heavily vegetated character, extensive stream channels, steep slopes, and remnants of the landfill operation, does not lend this area for a designated trail system.

The presence of landfill materials, such as car parts, household appliances, and tires, may present a hazard to the public. It would be difficult to remove

such remnants without clearing, excavating and grading. Such extreme activities should not be undertaken unless a clear and obvious danger to the public's health and safety is found to be related to the landfill artifacts.

While not recommended at this time, if access to the landfill materials poses a threat, consideration should be given to the installation of a barrier, such as a split rail fence, but may not include a chain link fence.

II. Trail planning

The informal trail system reflects low usage. Further, this area is difficult to access, and appears to be used with even less frequency than are the informal trails of the North Preserve.

- No new trails proposed. Trails occur as a result of informal use by the general public.
- All trails shall accommodate only hiking or similar foot based activity.
- Any trails resulting from inappropriate or prohibited use are not permitted.

III. Trail layout

- Trail users should contain hiking to existing trails to minimize disturbance to flora, fauna and undisturbed ground spaces.
- Hiking on courses on a vertical slope should be avoided in order to minimize potential for erosion. Switchback hiking patterns are recommended.

IV. Stream crossings

- Stream crossings should be kept to a minimum.
- Hikers should cross streams at the narrowest point, where banks are gently sloped and the stream bottom consists of gravel or sand.
- The construction or creation of bridges is prohibited, except as needed to protect from damage a stream bank or channel.
- The existing "diving board" bridge is an example of informal trail maintenance, and is inconsistent with the policy to prohibit the construction of bridges. It is recommended that the diving board, and similar existing structures, be allowed to remain. However, should such structures be damaged, deteriorate, or otherwise degrade to the point that the public's safety is clearly endangered: such structure shall be removed and will not be replaced.

V. Surface drainage

- Alteration of existing surface drainage patterns should be considered only when runoff creates conditions considered to be unsafe to the public or damaging to the surrounding natural conditions.
- Should surface drainage patterns require modification, such modification will only utilize natural materials.
- Culverts, storm drain inlets, swales, rip rap channels, or other measures that require excavation and/or the introduction of non-natural materials, are not permitted.
- Surface drainage adjustments, if required, should focus on redirection of the surface flow.
- In lieu of the use of surface drainage treatments, access to an impacted area may be restricted for a time period necessary to allow the undesirable condition to naturally repair/restore.
- Under any circumstances, the countermeasures employed shall be the least destructive options available, and shall be limited only to that area which must be affected to improve the unsafe or degraded condition.

VI. Subsurface drainage

- Subsurface drainage is prevalent throughout Greenbelt. No special treatments shall be considered to address subsurface drainage.
- In the event subsurface drainage impacts adjacent, private properties, no countermeasures shall be implemented until a study of all possible treatments, and the severity of the problem, has been conducted.
- Treatment of subsurface drainage problems impacting adjacent private properties through the alteration of surface or subsurface conditions in the preserve shall be considered only if no other options are available. More expensive options that protect the natural condition of the preserve are preferred to options which will impact the preserve.
- In the event that subsurface drainage is impacting a trail or other area being utilized by the general public, measures may be taken to reduce and eliminate muddy and/or erosive conditions. Such measures may include placement of stepping stones over the muddy areas, or redirection of the path.

VII. Trail signage

- Trail signage is not recommended for this sub area of the South Preserve.

VIII. Trail markings/blazes

- Trail markings and/or blazes are not permitted, given the primitive nature of the preserve.

IX. Trail clearing

- Trail clearing is prohibited unless in direct relation to a maintenance or management activity directed by Council.
- Trails shall not be widened.

X. Trail surfacing

- No foreign materials, including wood chips, straw and gravel, are permitted to be used for trail surfacing.

XI. Maintenance

- Area C of the South Preserve shall be inspected on an annual basis on foot by city personnel as assigned by the City Manager, to evaluate the condition of the preserve.
- Permitted maintenance activities during the inspection include removal of trash and refuse and removal of improvements installed by others and considered inconsistent with the Management and Maintenance Guidelines.
- Any conditions believed to be dangerous to the public or potentially injurious to the natural environment shall be reported to the City Manager, who will determine the appropriate response within these guidelines.

XII. Accessibility

- There are no barrier free trails existing or planned for Area C of the South Preserve.

South Preserve – Gardenway to Community Gardens at Hamilton Place –
Area D

I. Purpose and User Expectation

This area is relatively flat and exhibits the heaviest use of any Forest Preserve area. Use patterns indicate that both desirable and undesirable activities are conducted in this area. In addition, this area suffers noise

intrusion from the Baltimore-Washington Parkway, which detracts from the natural character of the woodland.

Of all preserve areas, this is the most readily accessible, which explains the use patterns. Given the accessibility, amount of usage, quality of that usage, and flat topography, this area is most suitable for planning and designation of trails offering access to the widest range of users.

II. Trail planning

- An inventory of existing trails, sensitive areas, areas of misuse and/or environmental decline, connections, stream crossings, and similar features, should be conducted. This will provide a basis for a comprehensive trail plan.
- Based on the results of this inventory, the following can be determined:
 - Existing trails and suitability for use as a designated trail segment.
 - Areas of sensitivity, where trails and public intrusion should be avoided.
 - Areas of decline, where past activities have compromised the character, health and/or condition of the Forest Preserve, and require treatment to repair the area.
 - Unique opportunities to make a portion of the Forest Preserve available to a larger segment of the public without threatening or compromising the character and quality of the preserve.
- Following this evaluation, consider planning for a system of easy to use, barrier free, interpretive trails which would provide an opportunity for citizens to enjoy the experiences of a naturally forested area, without compromising the larger, primitive areas of the North and South Preserve.
- Trails resulting from inappropriate or prohibited use are not permitted.

III. Trail layout

- Trail users should contain hiking to existing trail to minimize disturbance to flora, fauna and undisturbed ground spaces.
- Hiking on courses on a vertical slope should be avoided in order to minimize potential for erosion. Switchback hiking patterns are recommended.

IV. Stream crossings

- Stream crossings should be kept to a minimum.
- Hikers should cross streams at the narrowest point, where banks are gently sloped and the stream bottom consists of gravel or sand.

- The construction or creation of bridges shall be considered in the context of trails planning. Should a barrier free trail be planned, any stream crossings shall match the experience associated with the planned trail system.

V. Surface drainage

- Alteration of existing surface drainage patterns shall be considered only when runoff creates conditions considered to be unsafe to the public or damaging to the surrounding natural conditions.
- Should surface drainage patterns require modification, such modification will only utilize natural materials.
- Culverts, storm drain inlets, swales, rip rap channels, or other measures that require excavation and/or the introduction of non-natural materials, are not permitted.
- Surface drainage adjustments, if required, should focus on redirection of the surface flow.
- In lieu of the use of surface drainage treatments, access to an impacted area may be restricted for a time period necessary to allow the undesirable condition to naturally repair/restore.
- Under any circumstances, the countermeasures employed shall be the least destruction options available, and shall be limited only to that area which must be impacted to improve the unsafe or degraded condition.

VI. Subsurface drainage

- Subsurface drainage is prevalent throughout Greenbelt. No special treatments shall be considered to address subsurface drainage.
- In the event subsurface drainage impacts adjacent, private properties, no countermeasures shall be implemented until a study of all possible treatments, and the severity of the problem, has been conducted.
- Treatment of subsurface drainage problems impacting adjacent private properties through the alteration of surface or subsurface conditions on the preserve shall be considered only if no other options are available. More expensive options that protect the natural condition of the preserve are preferred to options which will impact the preserve.
- In the event that subsurface drainage is impacting a trail or other area being utilized by the general public, measures may be taken to reduce and eliminate muddy and/or erosive conditions. Such measures may include placement of stepping stones over the muddy areas, or redirection of the path.

VII. Trail signage

- Trail signage should be posted at the major points of public entry to this sub area of the preserve. These signs will indicate that the park is a Forest Preserve, state general rules of use, and give a phone number to call to report problems.

VIII. Trail markings/blazes

- Trail markings and/or blazes shall be utilized to mark only the designated trail(s).
- Blazes shall be indicated through the use of flags or marking tapes, if at all possible. Different loops or legs of the trail may be indicated through the use of different colors.
- Signs, markings, or other identification of a permanent nature should not be affixed to a tree, vegetation, rock, or other natural element,
- Blazes should be placed to be visible from all trail approaches.
- Each blaze location should have visibility to the next blaze in sequence.

IX. Trail clearing

- Trail clearing is prohibited except to create a designated trail, if authorized by Council.

X. Trail surfacing

- No foreign materials, including wood chips, straw and gravel, are permitted to be used for trail surfacing, unless a barrier free trail is planned.

XI. Maintenance

- Area D of the South Preserve shall be inspected on an annual basis, on foot by city personnel as assigned by the City Manager, to evaluate the condition of the preserve.
- Permitted maintenance activities during the inspection include removal of trash and refuse and removal of improvements installed by others and considered inconsistent with the Management and Maintenance Guidelines.
- Any conditions believed to be dangerous to the public or potentially injurious to the natural environment shall be reported to the City Manager, who will determine the appropriate response within these guidelines.

XII. Accessibility

- The decision regarding the possibility of designating barrier free trails should be based on the findings of the trail planning assessment.

South Preserve – Gardenway to McDonald Field – Area E

I. Purpose and User Expectation

This area of the South Preserve is not extensively used. The area is relatively flat and is heavily vegetated. It is recommended that this preserve area be managed based on a continuation of the existing use pattern.

II. Trail planning

- No new trails are proposed. Trails occur as a result of informal use by the general public.
- All trails shall accommodate only hiking or similar foot based activity.
- Trails resulting from inappropriate or prohibited use are not permitted.

III. Trail layout

- Trail users should contain hiking to existing trails to minimize disturbance to flora, fauna and undisturbed ground spaces.
- Hiking on courses on a vertical slope should be avoided in order to minimize potential for erosion. Switchback hiking patterns are recommended.

IV. Stream crossings

- Stream crossings should be kept to a minimum.
- Hikers should cross streams at the narrowest point, where banks are gently sloped and the stream bottom consists of gravel or sand.
- The construction or creation of bridges is prohibited, unless required to protect a stream bank or channel from damage.

V. Surface drainage

- Alteration of existing surface drainage patterns should be considered only when existing runoff creates conditions considered to be unsafe to the public or damaging to the surrounding natural conditions.
- Should surface drainage patterns require modification, such modification will only utilize natural materials.

- Culverts, storm drain inlets, swales, rip rap channels, or other measures that require excavation and/or the introduction of non-natural materials, are not permitted.
- Surface drainage adjustments, if required, should focus on redirection of the surface flow.
- In lieu of the use of surface drainage treatments, access to an impacted area may be restricted for a time period necessary to allow the undesirable condition to naturally repair/restore.
- Under any circumstances, the countermeasures employed shall be the least destructive option(s) available and shall be limited only to that area which must be affected to improve the unsafe or degraded condition.

VI. Subsurface drainage

- Subsurface drainage is prevalent throughout Greenbelt. No special treatments shall be considered to address subsurface drainage.
- In the event subsurface drainage impacts adjacent, private properties, no countermeasures shall be implemented until a study of all possible treatments, and the severity of the problem, has been conducted.
- Treatment of subsurface drainage problems impacting adjacent private properties through the alteration of surface or subsurface conditions in the preserve shall be considered only if no other options are available. More expensive options that protect the natural condition of the preserve are preferred to options which will impact the preserve.
- In the event that subsurface drainage is impacting a trail or other area being utilized by the general public, measures may be taken to reduce and eliminate muddy and/or erosive conditions. Such measures may include placement of stepping stones over the muddy areas, or redirection of the path.

VII. Trail signage

- Trail signage is not recommended for this sub area of the South Preserve.

VIII. Trail markings/blazes

- Trail markings and/or blazes are not permitted.

IX. Trail clearing

- Trail clearing is prohibited unless in direct relation to a maintenance or management activity directed by Council.

X. Trail surfacing

- No foreign materials, including wood chips, straw and gravel, are permitted to be used for trail surfacing.

XI. Maintenance

- Area E of the South Preserve shall be inspected on an annual basis on foot by city personnel as assigned by the City Manager, to evaluate the condition of the preserve.
- Permitted maintenance activities during the inspection include removal of trash and refuse and removal of improvements installed by others and considered inconsistent with the Management and Maintenance Guidelines.
- Any conditions believed to be dangerous to the public or potentially injurious to the natural environment shall be reported to the City Manager, who will determine the appropriate response within these guidelines.

XII. Accessibility

- There are no barrier free trails in Area E of the South Preserve.

SECTION THREE

SIGNAGE

Signage is generally used for two purposes – to identify a building or location to the public and to convey information. The size, location and text content of a sign will be determined by the purpose of the sign.

Signs are often viewed as a necessary evil. Signs, if used, should be designed and placed based on an understanding of the purpose and need for the sign. It is therefore important to identify the intended purpose of any sign before determining that one is required, and if required where it will be placed and how large it needs to be.

The need for signs at the Forest Preserve may be subject to debate and disagreement. Some may believe that a sign will attract users and advertise the preserve area for greater use than it might otherwise experience. These fears must be balanced against the benefit of a strategically worded, designed and maintained sign.

It is recommended that modest signs consistent with the standard redwood signs used at other city facilities and public areas be placed on Northway at Ridge Road near the entrance to the Northway complex. The other location recommended as appropriate for signage would be entrances to Area D of the South Preserve, should designated trails be planned and approved for this area.

The purpose of the sign would be to communicate information regarding the Forest Preserve. First, the sign would identify the park as a “Forest Preserve” and thus specially designated and managed by the city. Second, the sign would convey a simple statement indicating that the area is intended to be used for passive recreation experiences, and is ultimately an area to be protected and preserved. Finally, the sign would contain a phone number indicating where information about the park area and the Forest Preserve program may be obtained. It would also provide direction regarding the filing of complaints and/or reporting of inappropriate or illegal activity.

Consistent with other city parks and facilities, it is proposed that the sign be constructed of red wood, with the name of the park and the city seal routed and mounted on the sign. A line of smaller text could be placed below the Forest Preserve name, indicating that the area is a Forest Preserve and advising visitors of the limitations on activities and uses. A third area of text, which could be a small sign hung below the primary sign, would give the phone number to call for information and emergencies.

The purpose of these signs is to communicate basic information about the park area and the Forest Preserve program. The size and the scale of the sign should be consistent with other standard city facility signs located throughout Greenbelt.

A sample sign and text is as follows:



SECTION FOUR

MAINTENANCE

Webster's Dictionary defines *maintenance* as "*To keep in a desirable condition*". The use of this term often reflects the perspective of the individual reader. For example, from a public works perspective, maintenance can be interpreted to include those routine activities associated with the operation of a public park, including trash collection, turf control, surface preparation and repair, landscape installation, and pest management.

Within the context of the Forest Preserve, *maintenance* is addressed in four sections of this document. In the section addressing trails, the discussion applies to maintenance of the trails and reflects a perspective that active maintenance for the purpose of addressing the impact of people on the preserve should be sparingly undertaken. This section of the document elaborates further on this approach.

The active mitigation of human impacts on the preserve, which is suggested be approached in a very conservative and measured fashion, is different from the maintenance of the preserve from the perspective of the health of the natural resources. In sections addressing Invasive Species (Section 5) and the Forest Health (Section 12), a far different approach is advocated. In Sections 5 and 12, it is recommended that the appropriate maintenance approach to the Forest Preserve as a natural resource is proactive and include a continuous evaluation of the forest health.

It is therefore important, when considering maintenance, to ensure that the objective of the contemplated act be understood and the resulting action evaluated in the context of the health of the natural resource.

The following defines a suggested approach for the maintenance of the Forest Preserve from the perspective of the impact of use of the public on the protected forest areas. The reader is directed to separate discussions on Invasive Species and Forest Health for additional information on the general topic of maintenance.



Due to the size and vastness of the North and South Preserves, it would be difficult to maintain these forested areas to the same standard as other large city parks (Buddy Attick, Schrom Hills Park). Equally important, "maintenance" can be viewed as an intrusive activity and one which would change the essential character of the

preserves. Therefore, regular maintenance of any of the Forest Preserve areas is not recommended.

Within the trails section of this document, it is recommended that each Forest Preserve area be inspected on foot on an annual basis. The purpose of this inspection is two-fold. First, it provides an opportunity for a formal assessment of the condition of the Forest Preserve. Second, city personnel conducting the inspection/assessment can pick up trash and debris discovered during the inspection. It is not the intention of this recommendation to advocate for inspection or clean-up requiring the use of heavy equipment. To place this recommendation in context, the character of the inspection and clean-up should relate to the character of public access and use as defined in this document. No routine or annual maintenance, clean-up or inspection should impact or alter the essential characteristics of the Forest Preserve. The use of fertilizers or soil aeration should be specifically prohibited.

However, the “front door” of the Forest Preserve(s) should be more regularly inspected and maintained. By “front door”, this document makes reference to the edges of the Forest Preserve abutting a city street and/or a formal entrance to the Forest Preserve. The purpose of more frequent inspections and clean-up of these edges is to ensure that there is never a visual impression communicated that the Forest Preserve is not a protected area. The accumulation of trash and debris along a roadside abutting the Forest Preserve (such as Northway and Gardenway) or at an entrance (Plateau Place and Laurel Hill Road terminus) could convey an impression of disinterest, lack of public stewardship, and lack of monitoring. Consistent with the “broken window” theory, properties that are not maintained tend to invite more decline associated with disuse and abuse. It is important that even if the Forest Preserve areas are not scheduled for regular internal maintenance, that the external view of these preserved areas be vigorously protected.

Even lacking routine maintenance, the city should quickly respond to citizen complaints of dumping, damage, severe erosion, flooding, poaching of vegetation or wildlife, or any other evidence of misuse or abuse.

SECTION FIVE

INVASIVE SPECIES

Policy Statement

With the development of a Management and Maintenance plan for the City of Greenbelt Forest Preserve, the issue of invasive plant species impacting the preserve must be addressed. It is therefore necessary to define the term “invasive species” as it pertains to the Greenbelt Forest Preserve. In this case an invasive species will be defined as: *Any plant species that out competes and limits the distribution of more desirable plant species and provides reduced ecological benefits in terms of biodiversity.*

It is necessary to develop a set of criteria that particular plant species must meet to be included on a list of invasive species that may merit management efforts within the Forest Preserve. Plant biology, history of invasiveness in other areas, and distribution within and around the Forest Preserve should be factors in development of these criteria.

A specific set of guidelines must be followed in order for systematic and unbiased evaluation of the impacts (both negative and positive) of particular invasive species on the Forest Preserve. It is also necessary to determine the need for and the likelihood of successful management of those species and to set priorities based on site characteristics and location, current and projected site use, targeted species, and feasibility of control efforts.

If management of a particular species of invasive plant in a given area is determined to be necessary and viable, a plan specific to that species and to that site should be developed and a multi-year commitment made for the plan to be carried out.

Guidelines

- Management goals must be defined prior to any action being taken. To what end and for what benefits are we managing?
- Management decisions must be made by committees designated by City Council (e.g. a Forest Preserve Management Committee and the Advisory Committee on Trees) and qualified individuals (e.g. Forest Health professionals) with City Council consent.
- In setting criteria for identifying invasive species to be managed, it should be remembered that only a small percentage of plants display the aggressive

ability to colonize areas and out compete other plants that characterizes them as invasive. Just because a plant is not native does not mean that it is invasive or undesirable. On the other hand, a number of native species of plants (Virginia Creeper and Poison Ivy for example) display many of the same characteristics that we find troublesome with non-native invasive species.

- Plants known to be problematic in other areas of the region are very likely to become invasive in the Greenbelt Forest Preserve.
- In general, areas with the fewest invasive species should have priority for management over those areas with the most. Also, areas with developing populations of invasive species not known to be widespread should be given priority for management over areas invaded by more common invasive plant species.
- All management plans developed should be site and plant species specific.
- Areas with ecologically significant and uncommon or rare plant species or plant communities should be given highest priority for protection from disturbance or impact by invasive species. For example, in the North Preserve, the area known as Blueberry Hill and Canyon Creek should be noted as areas with unique plant populations and a high priority for preservation of existing ecosystems. Preservation is easier than remediation.
- Large tracts of habitat with limited incursions by invasive species should have priority for management over smaller parcels with heavy infestations.
- Generally, older forest stands should receive higher priority for invasive species management than younger stands. Exceptions to this guideline should be made where reforestation or other revegetation efforts are undertaken. Competition from invasive species is a common cause of failure of new plantings.
- Small tracts of woodland between and bordering residential property should only be targeted for invasive species management if significant neighborhood volunteer effort is involved. For long term management of invasive species at these sites to be successful, there must be an understanding of the problem and a sustained commitment for management by the residents of the affected neighborhood.
- The level of disturbance to an area must be considered. Sites highly disturbed by human activity such as construction, mowing, clearing, filling, and even trail use, or by natural phenomena such as flooding, fire or wind are much more likely to be invaded by many species of invasive plants. Highly disturbed sites should be recognized as such and plans specific to such sites should be implemented if determined to be necessary. For example, if a highly disturbed site is inhabited by invasive species, management of the invasive species at that site for the sake of returning it to a "native state" may not be realistic, with the resultant decision that no effort be made to manage the invasive species at that site. If, on the other hand, the disturbed site is

adjacent to an area that has little or no established invasive species, the disturbed site may be prioritized for invasive species management in order to prevent its spread into undisturbed area(s).

- Invasive species management activity, in itself, constitutes a disturbance. Care must be taken to minimize disturbance when implementing an invasive species management plan. For example, in areas where English Ivy is encroaching from residential areas into the woodlots surrounding them, it may be a viable option to simply cut the ivy at the bases of the trees in order to minimize the spread to outlying areas by transport of the seed that is produced by mature, arborescent ivy plants.
- Once management efforts are implemented in a given area there must be a commitment to continued management at that site for an indefinite period of time, often many years in length. That area should have very high priority for continued management efforts, even at the expense of postponing the implementation of new management efforts in other areas.
- Nature abhors a vacuum. Removal of invasive plant species without a plan for filling the void left by its removal will likely result in reinvasion by the same or an even more aggressive and difficult to manage invasive species.
- At times, attempts at management of invasive plants without the necessary knowledge of plant biology and habitat, the proper use of management tools, and without sufficient commitment to or funding for control measures, can worsen existing environmental problems, leading to invasive species composition shifts, erosion, and habitat loss. There are likely to be situations where doing nothing is a viable management option.
- Disturbance of soils and native vegetation by any activity other than minimal impact recreation such as hiking should be highly discouraged. Disturbance is the driving force behind invasion by undesirable plant species. In performing maintenance of trails or restoration of stream beds, extreme care must be taken to minimize site disturbance and to avoid introduction of invasive species.
- Invasive species management is a science. Decisions should be made with that in mind rather than being driven by emotional reactions to alien plant species.

SECTION SIX

CATASTROPHIC EVENTS

As actively and comprehensively as the city may try to protect the Forest Preserve from damage due to natural or human forces, there is no way to protect these areas from all such catastrophic events. Therefore, it is prudent to determine how the city will respond if or when such an event occurs, resulting in significant damage to a Forest Preserve area.

Catastrophic events may be the result of several different forces of nature, such as tornadoes, hurricanes, floods, forest fires, wind storms, ice storms, and severe thunderstorms. The events are usually of short duration, unpredictable, unpreventable and uncontrollable.

There can be other catastrophic events that are equally unpredictable, but result from the actions of persons, rather than natural events. The greatest danger would be from forest fires, resulting from a deliberate or accidental act by a person or person(s). Other possible severe damage could be caused by chemical spills, vandalism, or accidents involving a vehicle (including air plane).

Important points to consider in determining how to respond to a catastrophic event would be the nature of the damage, the extent of the damage, the ability of the natural community to regenerate itself following the event, possible damage/impact to adjacent properties associated with the damage, ease of clean-up, and cost/benefit of clean-up/restoration versus leaving the Forest Preserve area as is.

After any catastrophic event, the first course of action should be to survey the damage. The survey will provide an overview of the damaged areas and tree condition. Different types of storms will result in different types of damage. For example, ice storms often result in broken stems, limbs and branches. Lightning usually affects single trees. High winds usually result in bent trees, uprooted trees and root damage. Severe storms can cause a variety of damage.

Once the survey is complete, a course of action to address damage should be developed. Any high hazard areas should be cleared of any trees or branches that directly threaten people, buildings, power lines, active park areas or private property. Hazard areas should be limited to those areas of the Forest Preserve along the periphery therefore presenting a possibility for impact or damage to persons and properties outside the Forest Preserve.

Any access roads, formal trails, or park areas should be cleared of any fallen trees or branches. This should be done immediately following a catastrophic event.

Other considerations to be addressed in the post event survey would be clearance and maintenance of identified vistas, erosion prevention and control, disruption of blazes or trail markings, damming of water ways, or other significant and environment damaging impacts to the forest preserve.

There are other issues associated with storm damage, such as wind thrown trees, tree damage and wounding, potential for insect attack, disease, pests, and fire hazard. Were a management and maintenance policy recommended to actively address these issues, within the context of the routine Forest Preserve maintenance, then a strategy to respond to storm induced damage would be needed. However, since these guidelines are not now recommending that forest health be actively managed, then forest health in the aftermath of a damaging storm is not recommended beyond the measures previously identified.

The manner in which the city responds to catastrophic events which impact a Forest Preserve should be consistent with the level of maintenance promulgated elsewhere in these guidelines. In other words, the level of clean-up and restoration associated with a disaster should not exceed the actions to be taken under normal and routine circumstances.

SECTION SEVEN

VEGETATION

The Forest Preserve legislation states that it is prohibited to clear or prune vegetation or to harm, remove, or damage any natural resource. It is expected that the basic activity of hiking could result in secondary damage to vegetation. However, limitation of walking to existing trails will reduce the opportunity for accidental damage or injury to vegetation.

Other than accidental damage, vegetation may be intentionally damaged or removed by individuals attempting to blaze new trails, widen existing trails, remove "offensive vegetation", or harvest interesting vegetation for removal and replanting. Each of these acts is a violation of the Forest Preserve ordinance. The removal, pruning, or cutting of vegetation should only be undertaken by knowledgeable foresters or horticulturalists and if then, only under a plan or program developed and adopted through these guidelines.

It is important to communicate to the public that protection of the Forest Preserve includes the enforcement of strict prohibitions on the removal, in whole or in part, of any vegetation from within the preserve area. The inclusion of such warning language on a park information sign should be considered.

SECTION EIGHT

CLEAN-UP AND REMOVAL OF DEBRIS

Lacking routine maintenance, it will largely fall upon those who visit the Forest Preserve areas to perform custodial duties for the preserve, such as removal of trash and garbage. There will be occasions that an organized clean-up effort in the preserve areas may be necessary.

Stream clean-up activities are popular and routinely scheduled by environmental groups, concerned citizens, civic associations, and government agencies. The benefit of such clean-up events is the ability to remove a significant volume of trash etc., efficiency in collection and removal of waste and debris, and the opportunity for public education and awareness associated with the activity.

Clean-up programs should be scheduled at a semi-regular basis, but there should be a clear need for the clean-up to justify the disruption (physical and experientially) within the preserve. In the event of a single major or damaging action or event, efforts should be made to remove or mitigate the intrusion as soon as possible.

Organizations or individuals interested in sponsoring a clean-up effort should coordinate through the city to ensure that appropriate support is provided (i.e. pick up of trash, bags supplied, etc...) and also to make sure that there are no conflicts.

SECTION NINE

ENFORCEMENT

City parks and activities within the parks are regulated through a variety of general and specific regulations set forth in the City Code. These regulations cover a range of issues, such as hours during which the park area is open to the public, permitted activities, prohibited activities, and expected behavior of users of the parks. There are also regulations setting forth conditions under which special use permits may be required.

While parks are generally open from dawn to dusk (or 11 p.m. for parks managed for active recreation programming), there is no effort to physically restrict public access during off-hours. In fact, the enforcement of the various restrictions is largely informal, with specific enforcement action requested only when activities interfere with the public's peace and/or peaceful enjoyment of the park area.

As the Forest Preserves have been designated as areas of passive activity intended for protection of the forests with permitted activities consistent with this goal, there are more restrictions for use than in any other park in the city. The City Code enumerates restricted/prohibited activities, and dictates that violations of the activity restrictions will be considered civil infractions, punishable through the issuance of a Municipal Infraction civil citation with a fine of \$1000.

A class of more serious violations has also been defined, which could generally be called poaching of natural features. Violations of these regulations would be considered a misdemeanor and therefore would be a criminal sanction.

While strict adherence to the use restrictions is desirable to protect the Forest Preserves themselves, as well as the experience of those who visit the preserves, aggressive patrol and enforcement would detract from the character of the Forest Preserve. Therefore, it is important that the enforcement philosophy for the Forest Preserves be consistent with the use and experience philosophy reflected in the enabling legislation and these guidelines.

Accordingly, the following guidelines are intended to reflect a general enforcement approach, which should encourage compliance through respect for the Forest Preserve, understanding of the Forest Preserve program, and education about the forest community.

- Protection of the Forest Preserves, and the experience of those who visit the Forest Preserves, from any incompatible, illegal, or unauthorized use

or activity, should be the primary objective of any regulatory or enforcement efforts.

- The assistance of the public in the identification and reporting of violations of rules of use of the Forest Preserve shall be actively solicited. Contact phone numbers for reporting of problems or violations of use at the Forest Preserve should be posted or any signs for the Forest Preserve.
- Information regarding use of the Forest Preserve, and reporting of problems and/or violations should be posted on the City of Greenbelt web page.
- Park Rangers should patrol Forest Preserve areas as part of their normal work routine. Park Rangers should focus on education and training if and when violations or violators of Forest Preserve regulations are observed.
- Code enforcement personnel with the Department of Planning and Community Development should be responsible for the enforcement of the civil violations of the Forest Preserve law.
- Individuals who are observed or reported to be violating rules and regulations for the Forest Preserve will be advised, in writing (if possible) of the observed behavior and the associated violations. This written communication will stress the purpose of the Forest Preserve restrictions, and will encourage voluntary compliance. Mention of possible formal sanctions, in the form of civil citations and monetary fines, may be mentioned but should not detract from an overall cordial tone in the communication. These actions will be conducted through the Department of Planning and Community Development.
- Records should be kept indicating known dates of violations of rules and regulations governing activity at the Forest Preserves. Individuals known to have violated these regulations will also be recorded. This information may be used in an effort to identify trends in inappropriate activity, repeat offenders, or any other information relevant to the protection of the Forest Preserve.
- Second offenders of rules and regulations governing the Forest Preserves should be issued a civil citation, as set forth in the City Code.
- Suspected criminal violations, as specified in the City Code, should be promptly reported to the Greenbelt Police Department. A full and thorough criminal investigation should be initiated to identify any individual(s) who have committed criminal acts, and prosecution should be sought.
- In the event criminal activities are noted as part of a pattern of acts and abuses, the Greenbelt Police Department shall implement investigation, including monitoring of the Forest Preserve, in the interest of apprehending any individuals who are repeatedly committing such criminal acts. In the event that surveillance is required, such surveillance shall be

conducted in a fashion to minimize disruption to the Forest Preserve lands and users of the preserves.

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SECTION TEN

ACTIVITIES AND SPECIAL EVENTS

The enabling legislation for the Forest Preserve program sets forth specific and general criteria to describe both organized and informal activities which are permitted or prohibited.

Other than several specific examples of prohibited activities (events which are inconsistent with the intent of the program; races; survival exercises; war games; and activities which are “principally commercial” in nature), the limitations on uses comes from the general description of “uses which do not alter or degrade (the) essential natural characteristics (of the Forest Preserve).”

To some degree, activities may or may not be permitted depending upon the number of participants and the magnitude of the use. For example, an individual who jogs through the preserve on a daily basis would not be considered to be participating in a prohibited activity. However, a running club consisting of dozens of runners that schedules training runs on preserve trails, may be considered inappropriate. The distinction may not necessarily be in the activity itself, but in the impact associated with the activity.

Certain activities are clearly inconsistent and prohibited, and have been so identified in the ordinance. As previously noted, such prohibited activities would include racing, war games, survival exercises, activities of a principally commercial nature, hunting, trapping, fishing, biking, clearing, pruning, or other actions which harm or remove resources. This listing should be expanded to include uses referenced in other sections of the code, such as construction of improvements, uses implied but not specified (construction of viewing platforms, tree stands or tree houses), camping, cooking, and burning of fires.

Enforcement of use and activity violations may be done when the list of prohibitions is clearly stated. However, a subjective determination that a use is prohibited (such as the running club example) may be difficult to enforce, beyond the offending party being advised to discontinue the activity. Therefore, if there are specific uses or activities, which by the nature of the activity is inherently inconsistent with the objectives of the Forest Preserve program, such activities should be added to the list of prohibitions set forth in the ordinance. Lacking this specificity, the limitations on use cannot be enforced.

An example of this is the annual “Pumpkin Walk” of the preserve, which has generally been limited to Area B of the South Preserve, has been discussed in the

context of the Forest Preserve ordinance. It has been the intent of the City Council to allow this activity to continue, and the terminology “principally commercial” was included to differentiate the Pumpkin Walk from other activities which may be proposed by groups or individuals. However, even though the Pumpkin Walk would be considered a permitted activity, there are actions taken by organizers which are considered unacceptable, such as the application of straw to stabilize the walking trail. City staff should work with the organizers of the Pumpkin Walk to address this issue.

Regardless of the specific use and user(s) of the Forest Preserve, it is most important that all understand and respect the principal objective in the control of activities and special events, that uses should not alter or degrade the “essential natural character” of the Forest Preserve. The seemingly benign act of walking or hiking through the preserve alters the natural character of the Forest Preserve. This type of impact we acknowledge as acceptable in order to make the Forest Preserve accessible to the public so that Greenbelters can experience the beauty and serenity of a woodland environment. Any activities or special events must balance the opportunity to experience this natural area with the impact which would result. Only when the benefit from the experience is of greater value than the expected impact to the preserve should the activity or event be permitted.

SECTION ELEVEN

CONTINGENCIES

The Management and Maintenance Guidelines assume that use patterns in existence are largely in conformance with the guidelines. However, there are several uses, which are within the Forest Preserve, that are not consistent with the purpose of the Forest Preserve program or the content of this document. In the future, other parcels may be added to the Forest Preserve program which contains uses inconsistent with the law and guidelines.

In general, historic and desirable uses, inconsistent with the letter of the Forest Preserve law and these guidelines, which are important to the community, should be protected and allowed to continue operation. By acknowledging the importance of these uses, it is also recognized that activities associated with the inconsistent use may conflict, at times, with law and policy. It is not practical to define each such possible conflict, as the nature of the conflicts will vary based on the specific use. The guiding principle in setting guidelines to protect existing uses and the Forest Preserve must be balanced. The physical limits of the existing uses should remain unchanged. Expansion into Forest Preserve lands should not be permitted. By the same token, encroachment of the Forest Preserve into the inconsistent use area should also be avoided. At times, temporary infringement of one area into the other may be necessary. When such occasions arise, any disturbance must be unavoidable and minimized.

The following identifies several known incompatible uses, which have been in existence for many years, and some of which are part of the original city plan. Special considerations related to each are identified.

- Community gardens - The community gardens are shown on the original city plan, and are reflected in the name of the major access – Gardenway. The community gardens remain an integral part of the social structure and cooperative spirit of the city.

Community gardens are assigned through a city garden club and the use of the garden plots is managed through this group. The community gardens are divided into individual garden plots, which may be delineated with the use of gates and fencing. The character of the garden plots is decidedly eclectic. Some are neatly tended, orderly, and well maintained. Others appear chaotic in comparison, but may be just as productive for the use. There are shed-like structures within some of the garden areas, rain barrels, flags, sitting areas, and other related furnishings. There is a certain charm to the community gardens because they reflect the free spirit of the community.

Community gardens are located on the south side and east end of Hamilton Place and measure approximately 2.8 acres in area. The Hamilton Place community gardens are within Area C and D of the South Preserve and extend 75 feet in a southerly direction and 300 feet in an easterly direction into the Forest Preserve. The second garden area is located southwest of Gardenway, within Area E of the South Preserve. It measures approximately 1.5 acres in area and extends 300 feet in depth from Gardenway.

These guidelines are not intended to govern the gardening activities within the community gardens, but rather explain the historic and planned relationship between community gardening and the Forest Preserves. While some may find the community gardens unattractive and unkempt, the gardens are part of the fabric of Greenbelt and deserve to be protected, both in area and in operation.

In order to maintain the physical area set aside for gardens, necessary pruning, removal of trees, and selective clearing by city employees will be permitted. However, such pruning or removal of vegetation will only be permitted to the extent necessary to maintain the limits of the gardens and to remove any canopy that obstructs the clear story of the garden area.

- Hamilton Cemetery – The Hamilton cemetery is located at the end of Hamilton Place. It consists of seven graves of the Hamilton family. There is an interpretive panel at the trail head leading to the grave site. It is not a heavily visited site.

The importance of the Hamilton cemetery in the consideration of Management and Maintenance Guidelines is to acknowledge that the cemetery exists, allow basic maintenance to protect the grave sites and interpretive panels, and respect the dignity of this final resting place. The grave site is identified and discussed in city tourism and history materials, but a concerted effort has not been made to direct visitors to the site. These guidelines recommend that it is not necessary to “promote” the cemetery as a public visiting place. However, maintenance associated with the current use pattern is necessary and justified. Therefore, the recommended Management and Maintenance Guidelines for the cemetery would be to maintain the existing interpretive panels and grave area. Any required maintenance should be the minimum necessary to maintain signage and grave sites in good repair. There should be no effort to encourage greater visitation to this historic site.

- Northway Fields - Northway Fields is an active recreation complex located at the terminus of Northway, adjacent to the Baltimore-Washington Parkway. The complex is built over an abandoned landfill. The two softball fields in this park area are in poor condition and require surface rehabilitation if they are to be programmed for competitive use.

Also located at the Northway Fields are two parking areas, surfaced with crusher run gravel. There is a pile of asphalt millings used by the Public Works Department in city work. There is also a yard waste recycling/composting center, which has expanded in recent years. Northway Fields is also the location of the proposed observatory building.

The Northway Fields complex is in poor physical condition. This is exacerbated due to the illegal dumping of all varieties of waste and debris at the park. The city is diligently attempting to identify and fine individuals or companies that conduct this illegal activity.

In addition to the poor physical condition of the ball fields, there are problems with the aesthetics of the park, the relationship of uses to one another, lack of spectator space, inadequate spectator area, difficulty of maintenance, and lack of seating/gathering areas. The city has retained the services of a design firm to develop a master plan for the park.

It is not the intent of the Forest Preserve program, or these Management and Maintenance Guidelines, to cause the discontinuation of the use of the Northway Fields for active recreation use. However, the impacts associated with use of the fields should be limited to the existing limits of the fields and not be permitted to infringe or encroach upon the surrounding Forest Preserve. To the extent the area of existing use and activity infringes upon parcels designated as Forest Preserve, those preexisting Northway Fields and related activities should be considered consistent with these guidelines, as described herein.

- Handicap access – As the prior discussion and evaluation indicates, the North and South Preserves are characterized by a wide variety of topographic, vegetated and use patterns. The heavily forested and steep slopes make the planning of barrier free trails impossible without altering the contours and vegetation of the preserve area.

The natural characteristics of Areas “B” and “D” of the South Preserve may allow for some barrier free trails.

The debate over the need, advisability, and potential negative impacts of barrier free trails has been a quiet but persistent concern. Some feel that a barrier free trail would compromise the experience of the preserve, due both to the possible introduction of a hard surface in the preserve and by providing a trail surface which could be attractive to prohibited users (i.e. bicyclists). The result could be a fundamental alteration to the Forest Preserve.

These are all very credible and compelling arguments to keep the trails in the Forest Preserves as they are. Barrier free trails would not be a natural surface. Such trails would have to be maintained and repaired from time to time. Barrier free trails may well experience greater use than trails in portions of the Forest Preserve where only primitive trails are available. Finally, barrier free trails seem to be inconsistent with the principles and philosophy which have guided the creation of the Forest Preserve, program, and the preparation of the Management and Maintenance Guidelines. Viewed from this perspective, planning for a barrier free trail system, regardless of the length of the travel, or its location within the Forest Preserve could be viewed as inappropriate.

Notwithstanding the points made above, in the past 15 years this country has made tremendous progress in the removal of physical barriers for the use of buildings, parks, and even wilderness areas, for the entire population. Barriers can be either physical barriers or the absence of an accommodation which would provide access. Under either scenario, the rights of all the public to participate in, have access to, and enjoy the same quality events and experiences as those of able body, mind, senses, and spirit, have been acknowledged and are considered a basic civil right.

In developing guidelines to address the issue of barrier free, the practices of the National Park Service were consulted. The Park Service has managed to operate this country's vast national park system in a manner that provides for those with limitations.

The Directive of the National Park Service recognizes the obligation of a public entity to provide barrier free access for all the public:

"The National Park Service has legal obligations to make available equal opportunities for people with disabilities in all programs and activities. This requirement includes the opportunity to participate in wilderness experiences."

Within the same directive, the agency recognizes that the ability to provide access can be limited:

"Undeveloped areas, such as those outside the immediate influence of buildings and roads, will not normally be modified, nor will special facilities be provided for the sole purpose of providing access to all segments of the population. Accessibility to facilities in threshold areas will be determined on the basis of the nature of the topography, the significance of the attraction, the amount of physical modifications being made to the environment and the modifications necessary to ensure programmatic accessibility."

The agency directive provides further guidance in the following: *“Section 17.550 of the Secretary of the Interior's regulations regarding the enforcement of non-discrimination on the basis of disability in Department of the Interior programs (43 CFR Part 17, Subpart E) states that agencies are not required to take any actions or provide access that would result in a fundamental alteration in the nature of a program or activity.”*

These guidelines of the National Park Service provide wide latitude for an agency to determine if and how barrier free access will be provided in a park area. The agency indicates that access should be provided, but the manner in which such access is provided may be influenced by impacts such alterations would have on the natural environment. The decision whether or not to provide handicap access to a park area is thus very subjective in nature.

The challenge of addressing barrier free access can be dealt with proactively or in reaction to a demand or challenge to the city's accommodations.

Extending the policy of the National Park Service to the Management and Maintenance Guidelines for the Forest Preserve would seem to give very clear guidance with respect to the heavily vegetated North Preserve as well as Areas C and E of the South Preserve. Extension of barrier free trails in these areas of the Forest Preserve would be difficult, given the topography of the lands, and would result in a “fundamental alteration” in the protected area.

The same cannot be said of Areas B and D of the South Preserve. These areas already have extensive trail systems and the topography is relatively flat.

Upon a review of the guidelines of the National Park Service, the city is given latitude in determining how trails will be provided. Consideration may be given to the physical character of the forested area, such as topography. Further, accommodations which would fundamentally alter the program, activity, and by extension, resource, are not compelled. However, there should be provided the opportunity for disabled citizens to participate in and enjoy the Forest Preserve. The guidance of the National Park Service would guide the city to explore barrier free accommodations in areas of the forest preserve where it is reasonable to do so, without damaging or compromising the essential qualities of the natural setting.

The most suitable area of the Forest Preserve to consider for barrier free trail accommodations would be Area D of the South Preserve. This area is relatively flat in grade, there is an extensive system of existing earthen trails already in existence, it is accessible via Gardenway, and it is probably the most heavily used area of the Forest Preserve. The balance to be struck is in determining

how extensive a barrier free trail system needs to be provided and how that trail system will fit in with a trail system maintained to a lesser standard.

Within the Trails section of these guidelines, it is suggested that the existing trails within Area D be mapped and evaluated, so that a designated trail system can be established. A barrier free trail could be included as part of this comprehensive trail plan for Area D.

In the future, as the Forest Preserve is expanded, the same considerations should be made in determining if a specific area is suitable for the creation of barrier free trails.

In general, accessibility in Forest Preserve lands should neither be preemptively prohibited nor automatically assumed to be appropriate. The Forest Preserve experience should be available to all citizens, regardless of physical condition. The challenge will be to determine in which areas of the Forest Preserve accommodations for those with physical handicaps may be implemented without damaging or degrading the preserve to the extent that it loses its intrinsic value.

SECTION TWELVE

FOREST HEALTH

For the most part, the Management and Maintenance Guidelines have addressed how the City will manage the impact of people and activities on the Forest Preserve. While the acts of people, direct and indirect, can have impacts both positive and negative, so can the natural growth and aging of a forest, including succession, competition, as well as weather, pests, pollution and fire. Accordingly, the management and maintenance of the forest preserve should include monitoring of the health of the forest community, including taking action as indicated to promote the health of the forest.

These guidelines have already touched on some issues that are relevant in determining the health of the forest community, such as invasive species, runoff and erosion, and catastrophic events. Many other indicators of the health of a forested area require the expertise of a forester to identify, evaluate, and recommend treatment.

The goal of all forest management activities on the Forest Preserve is to maintain forest health. Economic benefits or resources derived from management activities are not considered relevant to the goal of maintaining forest health and therefore should not be considered in designing a management strategy.

Inventory of existing resources is the first step in prescribing a management strategy. It is imperative to know the current state of the forest in order to make conscientious decisions. There are many things to consider prior to conducting an inventory and an insect/disease inventory may vary greatly from a plant diversity inventory, such as:

- The purpose of the inventory must be defined.
- The specific data required must be identified.
- The methods to collect and analyze the data must be determined.

Following the inventory of existing conditions, goals must be set to achieve the desired state of the forest. For forest health, goals are usually long term over many years. A goal of achieving no more than ten percent of any one particular species over a one hundred year period promotes increased species diversity over a long period of time. This can be achieved by setting objectives to promote species that comprise less than ten percent and discourage species that comprise more.

Diversity of plant and animal species is of primary importance to the health of a forest and therefore a principal component of a management strategy. However, there

are many types of diversity that play a role in forest health. Plant “age-class” diversity ensures that not all of a particular species reaches maturity at the same time. Plant height class diversity allows plants with different mature sizes to coexist and provide increased benefits for wildlife and general forest health. Forest ecosystem diversity allows for a collage of different forest types, both small and large, within a given forest area. All of these types of diversity should be promoted in any designed management strategy for the Forest Preserve.

Strategies for managing the Forest Preserve should focus on reparation of existing damage and prevention of future damage. Existing damage, whether from an insect or disease infestation, stream bank erosion, or one of many other influences, can create a condition that worsens through time. Eliminating an existing damaging condition early can act as a preventative strategy as well. There are other damaging influences that can impact forest health that can be prevented with prior planning. An example is placing barriers along stream beds to slow down flow, preventing stream bank erosion, and promoting aquatic life habitat.

Structures to repair or prevent damage to forest health should be made of materials that are natural to a forest environment such as stone or logs. Additionally, the design of such structures should be naturalistic in order to blend in with the natural environment. One of the issues identified in the Forest Preserve is debris in the stream beds. Much of this debris is from man-made materials and some of it is from materials used to “fix” a problem. Many of the forest health issues that require a structure, or modification of a structure, to prevent or repair damage, can be solved using natural materials.

It was stated earlier, and is extremely relevant to the discussion of forest health, that forests are constantly undergoing change. Change will occur with or without human intervention and can be a positive or negative influence on forest health. What is of issue is how aggressively the City may or may not choose to respond to the evolution and change of the forest preserves.

Some of the natural processes all forests experience include aging of trees, competition of trees for food, light, water and space, and weather damage from droughts, floods, winds and ice build-up. Over the past several years, damage to forested areas associated with certain pests has been proactively addressed with treatments directed at killing destructive pests. Even with these treatments, trees throughout the city have been damaged due to pests such as the gypsy moth and bacterial leaf scorch. The decision to treat pests is a management act. In the future, additional steps may be necessary to protect our forest resources, whether they are in the forest preserve or elsewhere.

Another critical concern in fragmented and isolated urban forest systems is the shrinking habitat area, and the demand and load animals that live in these forests may

place on the forest and its vegetation. In this area, white tail deer have increased in number. The increase in the deer population means that more deer are grazing and feeding off the foliage and vegetation found in forests as well as yards that adjoin the forest areas. Lacking natural predators, the populations have grown unchecked. Some jurisdictions have relied on managed hunts as a way to control the deer population. This document in no way endorses or suggests that hunting of deer is either necessary or recommended. However, we have no data to indicate if there is an issue with deer population and what impacts are due to the deer population.

Healthy forests undergo constant transformation. Trees will age and die. Dead trees may fall, opening the tree canopy for the succession of new trees. Some trees will die in place and become habitat for animals and birds.

There is no single measurement which can summarize the health of a forest. A wide set of indicators together can reflect the current health of the forest. When monitoring for different types of forest health indicators is repeated over time, trends and changes in the health of the forest can be identified. From these assessments, programs and actions may be recommended to address declines in the overall health of a forest area. However, in order to make informed decisions regarding the physical health of the forest preserves, it is important to have a baseline assessment of current conditions.

Some indicators of forest health include the acreage of the forested land, the rate of growth of trees and other plants, the number of trees that die from natural causes each year, the condition and diversity of plant species below the forest canopy, the species of animals supported by the ecosystem, foliage transparency of tree crowns, tree crown dieback, tree crown density, and the size and health of individual animals.

High quality habitats are required for healthy populations of wildlife and healthy forest communities. The long term vitality of the forest preserves can only be projected if the current health of these wooded areas is understood. Obtaining such an evaluation from an appropriately trained forester or horticulturalist would give the City an invaluable tool to further define and refine maintenance activities necessary to protect the forest preserves for current and future generations of Greenbelters.

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